

## ABSTRACT

It is an object to provide a receiving apparatus which is capable of demodulating signals with a very simple arrangement. Receiving apparatus 1 has N reception antennas 11-1 – 11-N, and reception antennas 11-1 – 11-N receive signals. Channel coefficient estimator 12 estimates and outputs channel coefficients from the signals received by respective reception antennas 11-1 – 11-N. QR decomposer 13 is supplied with a channel matrix having the channel coefficients as its elements, performs QR decomposition on the channel matrix, and outputs a Q matrix and an R matrix. A  $Q^H$  processor 14 is supplied with the Q matrix and the received signals, multiplies the received signals by a complex conjugate transposed matrix of the Q matrix, and outputs converted signal z. A transmitted sequence estimator 15 is supplied with converted signal z and the R matrix and estimates transmitted sequences.